



NEW AERIAL MOTOR.

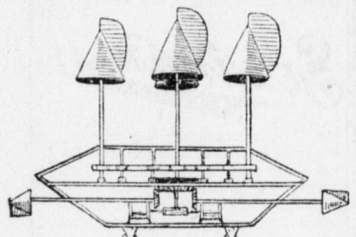
European Aeronauts Claim That It Is Constructed on the Most Plausible Theory.

European aeronauts are just now talking a great deal of a very novel airship, which has been constructed by MM. Filippi, of Bizerta, and Madler, of Tunis, and are wondering whether it will really do all that they claim for it. They maintain boldly that their airship can be uplifted and made to move in any desired direction by means of atmospheric pressure.

"Our balloon," they say, "will be entirely at our command after the atmosphere has been artificially rarefied in front of it."

Their invention in no way resembles an ordinary balloon. It is shaped like a skiff, on which are several masts. On the summit of each mast is a cone, and this is surmounted by a small wing. A machine causes the cone to turn, and their rotation, it is said, is bound to create an impulse under the airship which will necessarily send it upward. In the front and rear of the skiff there are also revolving cones, which are designed to rarefy the air and thus prevent the balloon from stopping.

That this is a most plausible theory all scientists admit, but some of them insist that no balloon constructed on this principle will ever be able to travel through the air. Thus M. Henri de Parville says: "MM. Filippi and Macler are merely wasting their time. A dozen years ago M. Puskas, a well-known scientist, came and told me that he had at last invented a perfect balloon. I asked him what the principle was and he said atmospheric pressure. I pointed out many objections to it, but he went ahead, and in a short time he had



THE LATEST IN AIRSHIPS.

built a 90-foot balloon, at a cost of 350,000 francs.

"He was then more enthusiastic than ever, but somehow he never succeeded in getting his balloon off the ground, and he died in Vienna without accomplishing his object. Now, this Puskas balloon was designed on exactly the same principles as the one constructed by Messrs. Filippi and Macler."

"The idea is certainly ingenious," says M. A. de Cunha, "but at the same time this would be a very dangerous airship, for the reason that a machine is used for the purpose of keeping it in the air and in motion, and if this machine were to break a calamity would certainly occur."

Others, on the contrary, are confident that the new airship will travel speedily and safely through the air, and both they and those who disagree with them are waiting anxiously for the first test of the airship, which will be made near Paris at an early date.

A PLANT THAT COUGHS.

The Eutada, a Tropical Vine, Sneezes Violently When Brought in Contact with Dust.

It is now well known that the sharp and broad distinction formerly made between animals and plants does not conform to the facts. The cells of plants, like those of animals, are differentiated in functions and are grouped to form special organs of nutrition, respiration, excretion—even for the perception of light. The sensitive plant (Mimosa) has a well-developed sense of touch.

A certain tissue in the leaves of plants performs the functions of a liver.

The respiration of plants is especially interesting. On the under side of leaves and on green stems are millions of microscopic mouths, each of which is opened and closed by two movable lips. These openings are the terminations of passages which are filled with water, vapor, air and other gases, produced by the chemical changes which accompany growth.

The vine called the coughing bean (Eutada tussiensis) is a native of moist, tropical regions.

By accidental transportation of its seeds it has gradually spread to much less congenial spots, especially railroad embankments, where it endures drought very well, though its growth is stunted. But there is one thing which it cannot stand, and that is dust. When the breathing pores become choked by dust the gases accumulate within the leaf for a time and then are forcibly expelled in an audible paroxysm of coughing and sneezing, which makes the leaf tremble violently. At the same time the whole plant becomes red in the face, so to speak, through the sinking in of the green chlorophyll grains and the appearance of particles of red coloring matter on the surface.

The Eutada is sometimes cultivated as a house plant. Sweeping the room is very apt to set the poor plant a-coughing, to the intense astonishment of persons who are unfamiliar with its peculiarities.

DISTEMPER IN DOGS.

Cocci of the Disease Has Recently Been Isolated and Vaccination Is Now Quite au Fait.

Vaccination of dogs as a preventive of distemper has just been announced in England by Dr. Copeman. He recently isolated the cocci of distemper and through experiments with the cultivated germs has prepared a vaccine that renders animals immune from the contagion.

Dr. Copeman discovered that the laboratory cocci, injected into a dog, was universally fatal. But when treated with diluted carbolic acid at a temperature of 60 degrees centigrade the vaccine



VACCINATING A DOG.

is so prepared made animals immune from distemper in any contact.

This discovery has been recognized as of great value in England. At the same time Dr. Copeman has not had a chance to prove how long this immunity may last, and dog breeders all over the world are to be brought to try the vaccine with an eye to its lasting effect.

This discovery is interesting from a pathological point of view from the fact that long ago the disease was classed as a variola and an inoculation of cowpox was proved to be ineffectual against it.

From the time of Aristotle canine distemper has been recognized. In 1028 it almost wiped out the dogs of Bohemia. France suffered from it in 1740, and before the century ended nearly every part of Europe had felt the scourge. It exists in nearly every part of Europe to-day.

Time and again in recent years unsuccessful efforts have been made to find the germ of the distemper. Now that it is found it does not show marked variations from several other well-known micrococci.

FREEZING BACTERIA.

Fresh Experiments Prove That Long Continued Cold Will Destroy Even the Liveliest of Them.

Within the last year or two some interesting experiments have been conducted in England, with the purpose of ascertaining the effect of extreme cold on the vitality of various kinds of bacteria. The tests were made with liquid air and liquid hydrogen, by means of which temperatures were obtained 300 to 400 degrees below zero. In the majority of instances the microbes withstood this amazing chill and on thawing out exhibited signs of life.

In these experiments, however, the cold was applied for only a very short time, a few minutes or a few hours. A different class of tests has just been reported to a bacteriological congress by Dr. W. H. Park, of the New York health board. He employed only typhoid bacilli, but in order to make the investigation more thorough he took specimens which he had cultivated from 20 different cases of disease. Thus any inequality in their hardiness was guarded against. The particular feature of this scheme was not the severity of the cold, but its duration. Having prepared a lot of tubes containing his culture, Dr. Park reduced them all to a temperature of 23 degrees Fahrenheit, only a little below freezing, and kept them there. Then at intervals he would remove a tube and examine the bacilli.

At the end of 3 1/2 days he found 42 per cent. of the microbes in the first tube alive. In a week all but 14 per cent. were dead in another. In two weeks only 7 1/2 per cent. survived, in three, 0.4; in five, 0.11, and in seven, 0.5. The percentage diminished as time went on, until in 22 weeks, or fully five months, all of the bacilli were dead. The tube opened after 18 weeks was the last to show any life left. It thus appears that a long winter will usually kill typhoid bacilli, even if it is not a severe one.

Fast Trolley Car Service.

In Philadelphia a fast trolley car is being tested. It takes newspapers in the early morning to Chestnut Hill, 14 1/2 miles away. It runs at a rate of 35 miles an hour, including a stop at least every three-quarters of a mile. Occasionally it has run a mile in a minute and an eighth and it has made the entire distance in 25 minutes, including stops, which is the same time as the express trains make for the same distance. It maintains its schedule time regularly, but on one occasion it was late ten minutes, owing to the wreck of a hay wagon which was on the road.

Curious Test for Deafness.

A novel and curious test for deafness or approaching deafness has just been described by a Paris specialist. If the handle of a vibrating tuning fork be applied to the knee or other bony portion of the human frame the sound cannot be heard by the person who possesses an unimpaired ear, but if the ear be attacked by disease, then the note can be heard distinctly.



THE ART OF GRAFTING.

Cleft Method Described in Detail, Together with Hints on the Preparation of Grafting Wax.

The terms used in grafting are scion, which is the part inserted, and stock, which is the tree grafted upon. Cleft-grafting is probably more generally used than any other kind. It is commonly performed to change the bearing of apple, plum and various other trees and plants. It may be used on very small branches or stocks, but is best adapted to large branches. The tools used on larger-sized stocks are a sharp knife for cutting the branches or stems, and a grafting-chisel for splitting the stocks and for holding the cleft open while the scions are being inserted.



Fig. 1. INSERTING THE SCION.

Ing inserted. On small stocks a sharp knife alone is needed.

The work is done as follows: The place selected for the insertion of the scions should be where the grain is straight. The stock is then cut square off and is split through its center to a sufficient depth to allow the scion to be put in place. The cleft should be held open by the wedge-shaped part of the chisel (a large nail will answer the purpose in a small way) until the scions are inserted, when the wedge is withdrawn, allowing the stock to spring back and hold the scions in place. If the stock does not spring back into place it should be drawn tight against the scions by a piece of string. The number of scions put into each stock will depend upon its size, but generally not more than two are inserted, and on small stocks only one. It is absolutely necessary for success that the inner barks of both scion and stock come together, as shown in Fig. 1. When inserted the scions should appear as shown in Fig. 2. The scions should be wedge-shaped for about one

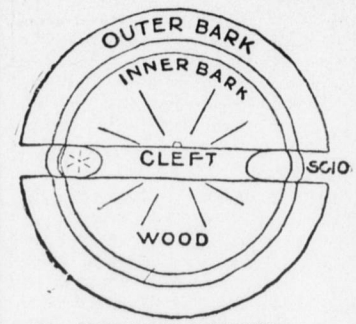


Fig. 2. THE SCION INSERTED.

and one-half inches where they go into the cleft in the stock. They should also be wedge-shaped crossways, as shown in Fig. 1, so as to bind the inner barks of scion and stock together. They should each have two or three buds above the cleft. The scions must be of wood of the preceding year's growth, and no older. It is important to use a sharp knife for making the cuts. When the scions are inserted and in place all the cut surfaces should be covered with grafting-wax. Clay and cow-dung well kneaded together in equal proportions into a stiff mastic may be used in place of wax, but all things considered wax is most desirable.

A good grafting-wax for general use may be made as follows: Resin, four parts by weight; beeswax, two parts; tallow, one part. Melt together and pour into a pail of cold water; then grease the hands and pull the wax until it is nearly white, in the same way that molasses-candy is pulled. In applying the wax, place it in warm water to soften for use if too hard. Grease the hands, to prevent it sticking to them. Grafting is generally performed with greatest certainty just as growth starts in the spring. The buds on the scion should not have started at the time they are inserted. Plums generally graft best just before the growth starts.—Farm and Fireside.

Making Koumiss at Home.

To make homemade koumiss, cow's milk should be diluted with one-third its volume of water and two teaspoonfuls of white sugar added per quart of liquid. A small portion of this is rubbed into a paste, which is then placed in strong bottles and allowed to ferment. After a few days, during which the bottles should be repeatedly shaken, a beverage of great value in cases of digestive disturbance, as well as of excellent palatability for a healthy person, is produced. Especial care must be used in corking the bottles tightly, and it is safer, owing to the great pressures produced by the fermentation, to wrap the bottles in a heavy cloth before shaking them.—Dairy and Creamery.

Work pushed early will count for more than six weeks later. Have everything in hand to take advantage of all the good days as soon as the soil will work up properly.—National Rural.

A UNITED STATES MARSHAL Thanks Peruna For His Rapid Recovery From Catarrh.



EX-UNITED STATES MARSHAL MATTHEWS, OF MISSISSIPPI.

Hon. S. S. Matthews, ex-United States Marshal of Mississippi, in a recent letter to The Peruna Medicine Company of Columbus, Ohio, written from Hazelhurst, Miss., says:

"I am happy to say that I am cured of catarrh and need no more attention from you. It is a great satisfaction that I am able to write you that Peruna has in my case done all that you claim, and that I will need no more medicine."

The great multitude take this remedy without any other advice than the directions to be found upon the bottle and in the pamphlets. There are those who prefer, however, to correspond with Dr. Hartman during their sickness. To all such he will make prompt and careful answer without charge.

Hon. J. F. Crooker, of Buffalo, N. Y., who was for years Superintendent of Schools at Buffalo, in a letter dated October 16 writes:

"I have been a sufferer from catarrh six or seven years, and after trying many remedies was induced by a friend to take Peruna. The results have been highly satisfactory. I take pleasure in recommending Peruna to any one suffering with catarrh, as my cure is complete."



Hon. J. F. Crooker, Superintendent of Schools, Buffalo, N. Y.

Hon. B. R. Dviner, Congressman from West Virginia, in a letter from Washington, D. C., to The Peruna Medicine Co., says the following of their catarrh remedy, Peruna:

"I join with my colleagues in the House of Representatives in recommending your excellent remedy, Peruna, as a good tonic and also an effective cure for catarrh."

Mrs. Mary C. Pentross writes from Paradise, Tex., the following: "I think I can say that your good advice and medicine has cured me of chronic catarrh. I have had no pains in my head since I have taken Peruna. I have been in bad health ever since '59, and have taken a good many medicines which were only of temporary relief. Peruna is the catarrh cure. The Peruna stopped my catarrh of the head so that it did not become chronic, and I am very thankful for Dr. Hartman's advice and medicine."

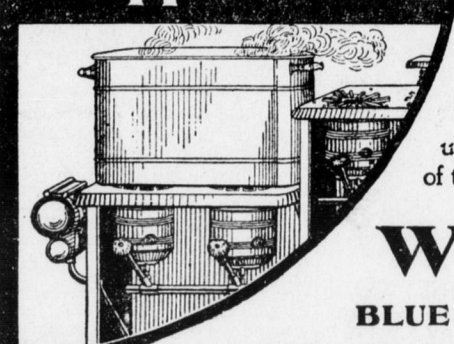
Peruna is a specific for all catarrhal diseases. It acts quickly and beneficially upon the inflamed mucous membrane thus removing the cause of catarrh.

Catarrh is catarrh wherever located. Catarrh is essentially the same everywhere. The remedy that will cure catarrh in one situation will cure it in all situations.

If you do not derive prompt and satisfactory results from the use of Peruna, write at once to Dr. Hartman, giving a full statement of your case and he will be pleased to give you his valuable advice gratis.

Address Dr. Hartman, President of The Hartman Sanitarium, Columbus, O.

FROM WASHDAY



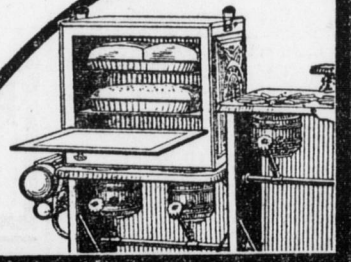
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Wickless BLUE FLAME Oil Stove

will boil, bake, broil or fry better than a coal stove. It is safe and cleanly—can not become greasy, can not emit any odor. Made in several sizes, from one burner to five. If your dealer does not have them, write to nearest agency of

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To BAKING DAY



EASILY ACQUIRED FAME.

He Was Running for Office and Got the Big Boost Just to Help Him Along.

"I never realized how easily a man may court fame and get undeserved credit for a very ordinary act until I got into politics," observed the modest aldermanic candidate, relates the Detroit Free Press.

"The other day I stepped out into the street and stopped a walk-away nag attached to a heavily-loaded bricked wagon. The animal had simply strayed away while the driver went to get a glass of beer or something. I don't believe the old ring-boned animal had the ambition to run away even if he had a light wagon behind him, and he certainly was going at a cold molasses gait when I stopped him. As I 'reed' the horse around and returned him to the curb one of my admiring constituents who touched me for campaign expenses occasionally, rushed up and, grabbing my hand, exclaimed:

"By George, old boy, that was a brave act! I expected to see you trampled under the horse's hoofs any minute."

"Then a very inquisitive young man whom I might have recognized as a newspaper reporter advanced and plied me with questions. That evening my attention was called to a windy, not to say 'fierce,' article in which I was described as a great hero. It was headed 'Daring Deed—An Aldermanic Candidate Stops a Runaway Horse at the Risk of His Life,' and a graphic word picture was drawn of flying bricks, plunging horses and scurrying pedestrians. "It was a great send-off and the enthusiastic constituent who was the first to congratulate me touched me for a 'five-spot' on the strength of it."

Hard Bread.

Mr. Newlywed—Come, won't you break bread with us to-day? Jack Jester—No, thanks, old man; you see, I can't stand manual labor. By the way, is it her first attempt?—Ohio State Journal.

No Innovations for Him.

"Please, sir," said the honest office boy, "may I get off this afternoon?" "Why?" asked Mr. Oldskule, knowing that a ball game was scheduled; "is your grandmother dead?" "Oh, no, sir," replied the h. o. b. "I want to go to the baseball game." "No, indeed!" snorted Mr. Oldskule. "You stay right here in the office. I want it understood that the traditions of our fathers must and shall be respected so long as I am in charge here."—Baltimore American.

Two Good Friends.

If you have pimples, tetter, eczema or any disease of the skin or mucous membranes that can be reached by an outward application, it can be cured by using Palmer's Lotion, the greatest beautifier and skin curer, which should be kept in every household, ready for any emergency. Palmer's Lotion Soap possesses all the medicinal properties of this lotion and should be used in connection with it, in preference to any other soap, as it will greatly assist in curing all such afflictions. If your druggist doesn't keep them, send at once to Solon Palmer, 374 Pearl Street, New York, for samples of Palmer's Lotion and Lotion Soap.

Mrs. Johnson—"I jes' met Mrs. Yallerby, an' she tole me her daughter done eloped wif a gemman in de iron business." Mrs. Jackson—"Well, I declar! Sech airs! Who am de gemman?" Mrs. Johnson—"He's de Chinese launderman 'round de coahner."—Philadelphia Record.

I am sure Piso's Cure for Consumption saved my life three years ago.—Mrs. Thos. Robbins, Maple Street, Norwich, N. Y., Feb. 17, 1900.

First Impressions.—Mamma (to Bobby, who has never seen young lums)—"Well, Bobby, what do you think of them?" Bobby—"I like the funny way they bark!"—Punch.

Check Coughs, Colds and Croup With Hoxsie's Croup Cure. No opium. 50 cts.

A good many men are so shiftless that they never dress up except on Sunday or when their church gives a dinner.—Washington (La.) Democrat.

Some skeptics are like the near-sighted man who skates right up to the danger sign to see what it says.—Detroit Journal.

It's when things are coming your way that you admit they are going to suit you.—Philadelphia Bulletin.

A Confidence Between Members.

"I understand," said one member of the legislature, "that the senator who we recently elected was beset by footpads and robbed in Paris."

"Dear me," answered the other member of the legislature. "Those Frenchmen have such a brutal and direct method of getting a man's money away from him."—Washington Star.

It's a mighty deaf man that doesn't hear the dinner bell.—Chicago Daily News.

Many a poor tune is played on a good horn.—Chicago Daily News.

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100 ACRES IN WESTERN CANADA FREE. If you take up your home in Western Canada, the land of plenty. Illustrated pamphlets, giving experiences of farmers who have become wealthy in growing wheat, reporting on the soil, climate, etc., and full information as to how to get on the land. Free of cost. F. PERRY, Superintendent of Immigration, Ottawa, Canada; M. V. McINNES, No. 2 Merrill Bldg., Detroit, Mich.; E. T. HOLMES, Room 6, Big Four Bldg., Indianapolis, Ind.

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